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SPECIAL
8-Page
ISSUE

the Rose Thorn

Registration
JAN. 24

News Briefs

Arder to speak on U.S. Constitution

by Steve Ufheil

"The role of the military in the development of the U.S. constitution" will be the topic of a speech presented by retired U.S. Army Lieutenant General Robert Arter.

Since being named Special Consultant to the Secretary of the Army for the Bicentennial of the United States Constitution in 1986, General Arter has been a vigorous, eloquent, and effective advocate for Bicentennial awareness throughout the armed forces. Under his leadership more than 140 military installations have been designated as Bicentennial Defense Communities.

Awards and decorations

which General Arter has received include the Distinguished Service Medal, the Silver Star, the Legion of Merit (with Oak Leaf Cluster), the Distinguished Flying Cross, the Bronze Star Medal, and the Air Medal (19 awards). He also holds the Joint Service Commendation Medal, the Army Commendation Medal (with Oak Leaf Cluster), the Purple Heart, two awards of the Combat Infantryman's Badge, and the Parachutist Badge.

General Arter's speech will be held in the GM room at 7 pm on January 24. The speech is sponsored by the Bicentennial Commission.

Blue Key to host faculty dialogue

by Steve Ufheil

Once again the Blue Key Honor Fraternity is sponsoring a student-faculty dialogue to be held on Feb. 7. In order for this event to be successful, we need your help.

The dialogue consists of members of Blue Key asking faculty and staff questions concerning policies and procedures at Rose. Past questions have dealt with such topics as cheating, the master plan, Rose admissions standards, and litter in the stu-

dent commons.

Blue Key is asking your help in formulating questions that concern the student body. Simply write your questions on a piece of paper with your name and box number and send it to Adam Remaly, Box 1156. The questions must be received no later than January 27. A brief review of the questions answered during the dialogue will be published in the Feb. 17 issue of the Thorn.

Ragtime, jazz featured in fine arts program

An evening of ragtime jazz featuring the music of Scott Joplin, Eubie Blake, Meade "Lux" Lewis and other great American jazz composers will be presented Jan. 21 at Rose-Hulman during a concert by pianist William Albright.

During his performance, which is part of the Fine Arts Series, Albright will trace the growth of American ragtime jazz from its classic period to the development of stride, the blues, boogie-woogie and swing.

The concert begins at 7:30 p.m. in the Moench Hall Auditorium. Tickets can be purchased at the door prior to the performance. Prices are \$3 for adults and \$1.50 for senior citizens and non-Rose stu-

dents.

His concerts begin with music from the 1890's work of rag maestro Scott Joplin, including "The Entertainer" and "Maple Leaf Rag." Jazz classics such as James Johnson's "Mule Walk Stomp" and "Carolina Shout" are played as Albright moves into the boogie-woogie sounds of Meade "Lux" Lewis' "Chicago Flyer" and others.

A native Hoosier, born in Gary, Albright teaches composition at the University of Michigan where he received a doctorate in musical arts. His honors include Fulbright and Guggenheim Fellowships and awards from the American Academy and Institute of Arts and Letters.

RHA begins VCR tape checkout program

by P.J. Hinton

It happens to every Rose student at one time or another in his undergraduate career. The weekend comes around and you don't have anything to do, or if there is something to do, you don't have the money. There just doesn't seem to be a cure for the Rose Weekend Blues.

In order to help the student to combat this dilemma, the Rose-Hulman Residence Hall Association has started a video cassette tape checkout program to provide temporary relief of weekend blues as well as during the week.

Tapes can be borrowed by Rose students, faculty or staff

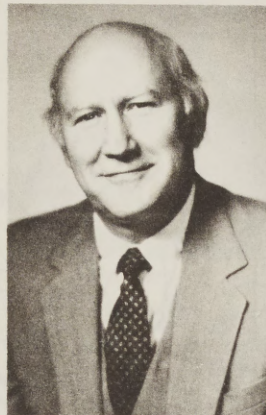
exclusively.

Tapes may be borrowed from the checkout room, located on the lower level of Hulman Memorial Union from 12 p.m. to 6 p.m. on Saturday and Sunday and from 9 a.m. to 6 p.m. on weekdays.

Obtain the desired cassette by informing the attendant of your selection. Present your Rose-Hulman ID, and print your name, ID number and phone number on a sign-out form.

Under no circumstances will VCR tapes be reserved. There will be a limit of two tapes that can be checked out per day.

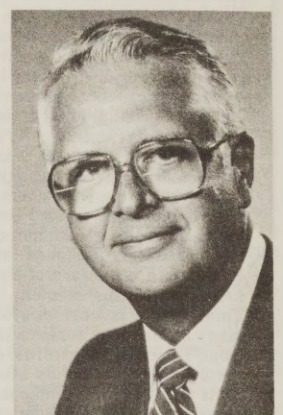
Futurists featured during symposium on change



Samuel F. Hulbert



Robert Theobald



John Hague

Change is inevitable, and in today's society the tempo of change is almost uncontrollable.

The impact of change on our lives today and in the future will be the focus of discussion Jan. 21 during the first of a series of seminars open to the public at the Rose-Hulman entitled "The Rose-Hulman Forum on Change."

Providing insight into how our world is changing and what our lifestyle will be like in the 21st century will be author and futurist Robert Theobald; John Hague, chairman and former president of the Indiana Corporation for Science and Technology; and Rose-Hulman President Samuel F. Hulbert.

Alfred Schmidt, professor of mathematics and seminar coordinator, said the purpose of the series is to make Rose-Hulman students more aware of the changes they will encounter.

Theobald has written extensively about the changes tak-

ing place due to the development of new weaponry, computers and robots, perceptions of human rights and our increased understanding of the environment.

He has served as a consultant to cities and states who are planning for the future. Theobald has studied the impact of changing federal welfare rules and tax reform measures and has developed alternate methods for energy use for the Congressional Office of Technology Assessment.

The symposium's theme was developed from Theobald's most recent book, *The Rapids of Change: Social Entrepreneurship in Turbulent Times*.

Theobald will discuss global and sociological changes that are affecting the rich and poor when he speaks at 1 p.m. in room E-104 of Moench Hall.

Hulbert will open the symposium at 11 a.m. in the Hulman Union with a presentation about the improvements he believes must be made in our educational system if the U.S. is to be com-

petitive economically during the 21st century.

At 2:30 p.m., in E-104, Hague will discuss the latest developments in science and technology that will change our lives in the next century. Prior to becoming chairman of the Indiana Corporation for Science and Technology, Hague was associated for more than 30 years with the Naval Avionics Center in Indianapolis where he served as executive director of the center and director of engineering.

Hague has conducted research in the areas of advanced electronic technologies such as large scale integration, surface acoustic wave devices and microelectronics. He has also chaired the Naval Air Systems Command studies relating to avionics systems and technology for the 1990s.

Following Hague's presentation, a one-hour discussion period is scheduled during which the audience will be able to question each of the three speakers.

New computer algebra room opens

by Jeff Valput

Last week the new computer algebra room (G-222) opened for operation. The room is being used by calculus students for math instruction and homework.

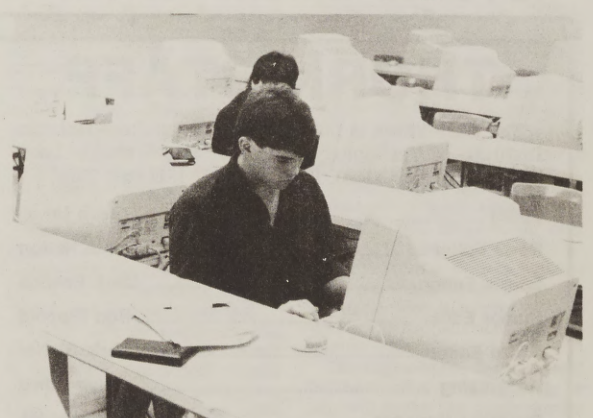
29 Vaxstation 2000 terminals were installed, and these are networked via the Vax 3200 server. Each of the terminals has a six megabyte hard drive so once loaded with software, they are nearly self-sufficient. The instructor's terminal has a logon monitor with a projection device to aid in demonstrating concepts to the class.

This project was funded in part by the National Science Foundation in the form of a grant. They provide ILLI grants for the purpose of initiating improvement in education. The balance of the money came from Rose-Hulman.

According to Robert J. Lopez, the main reasons the system was created are to make calculus a more participatory class and to give students a better grasp of calculus concepts without over-emphasizing the techniques used to solve the various problems.

The computer performs the calculations which the students would normally do by hand. A greater understanding of the concepts is developed, not the manipulation of "x" and "y".

Previously, when students didn't have Maple to aid them, the methods of solving calculus problems were stressed much more than the concepts involved. Consequently, students ended up applying their algebra skills more



The new computer algebra system room in Crapo Hall opened earlier this month. Freshman Phil Poor (above) works on a Calculus II assignment using MAPLE, a symbolic manipulation program.

photo by: Chris Stoffer

than learning new calculus concepts.

One question raised by students is "If I don't do the symbolic match, (x and y manipulation) will I learn calculus?"

Lopez, in response to this, stated that manipulation isn't math. Math is ideas. A choice must be made between the emphasis of concepts or skills. The emphasis of concepts is the obvious choice.

Several students were asked their opinion on the use of the new system to aid in calculus instruction.

Leonard Dattilo, a freshman ME, is not in favor of it. He stated, "I still think it's like giving a third grader a calculator to do arithmetic problems. I don't think I'm learning as well."

Bryan Ware, a freshman AO, is in favor of it. He said, "By taking the scratchwork out of math, it lets us get to tackle the more complicated problems and ideas. But it's important that the computer doesn't become a crutch. I think that is something Dr. Lopez is trying to avoid."

Will the system be a success? That, the future will determine.

Opinions and Columns

Letter to the Editor

Dear Editor:

Please allow me to address your regular readers from Saint Mary-of-the Woods College, as well as those Rose students who get their thrills from the Woodsie humor ads.

Many Woods students complain about the poor taste or insulting quality of the ads directed toward them, primarily the Woodsie-the-Owl references. Personally, I find these remarks and references very funny. My own favorite was the Scientific Breakthrough during which the Rose chemistry department defined the element Woman and noted that "60% of all freshmen (at Rose) were not aware of the existence of this element." This article is only one of many in which the students of Rose-Hulman incriminate themselves as well as students from other institutions. A regular reader would notice this, unless he/she was focused on looking for something to complain about.

Another common concern of the Woodsie is the term Woodsie. Well, now, I can understand the conviction of those who have experienced the term in a derogatory manner, but not many actually have. If as freshmen the Woods students entered their bookstore to find a variety of sweatshirts imprinted with WOODSIE, I do not believe the response to the term

would be the same. As for those who have some right to find the term insulting, with a great deal of genuine respect I urge you to laugh at the silliness of getting angry over what is really no more than a pet name created by analytically minded (rather than literarily) creatures.

Finally, it is the prerogative of any and all readers of the Rose Thorn to respond to any published material in a calm, reasonable Letter to the Editor, signed with your name and address. If you cannot respond like a mature individual, then you cannot criticize something you do not consider mature. This is a legitimate publication and your letters will not be censored to lose the meaning (although they may be condensed to make your point more effective). If you do respond to an ad or article and your letter is published incorrectly or not published, please contact the staff and request a reason or retraction. These are not unreasonable people, but you are unreasonable to criticize without some constructive effort.

Fellow Saint Mary-of-the-Woods students, I call upon your newly developed multiplicitic approach skills to make valid your opinions.

Luahna L. Winningham
Saint Mary-of-the-Woods
College Senior



Editorial: The Rose Screw

The Rose Screw. What is it? Why are we subjected to it?

The Rose Screw is many different things to many different people. To some it is the seemingly impossible finals and very challenging lab assignments. To others it is "open ended and indefinite" homework sets. I do not feel that these are really the Rose Screw. After all we did agree to pay \$10,000 a year to get an education, and these are considered a part of that education. To me the Screw is composed of those things that one would not expect from a school that prides itself on helping the student. Let me give you a few examples.

I returned from Christmas break on Saturday Jan. 7 because I had computer programs to run on both the VAX and the PC. I arrived at Rose at 11:00 on Sunday, Jan. 8 (I live off campus) only to find the computer center closed. There was, however, a sign on the door stating that the WCC would be open from 1 pm to 2 am. Since I had other work to do, I waited. At 1:30 the WCC was still not open. I did see a student manager in the back room, but he couldn't hear me pounding on the door. Next I tried calling the WCC but he wouldn't answer the phone (Thanks!). By this time it was 2:00 and I decided to call the Security office. I asked when they were going to open the WCC, informing him of the sign on the door of the center. He responded that the WCC was closed until Monday. I then asked him about the PC room. Again he responded that it was closed until Monday. Finally I inquired about the PC room in the Gameroom. He responded, "All of the computer facilities on campus are closed until Monday. ...I guess you're s__t out of luck." I later learned that the WCC did open on Sunday eve-

ning. Thanks Security for being so helpful to the students!

My next example deals with college transcripts. The current policy is that the first transcript is free and all others are \$2.00. This does not seem that bad until you consider that a transcript received in the fall quarter is no longer current after Thanksgiving. Also consider seniors. Some companies require a transcript when interviewing and most require you to bring a copy along on the plant trip. Interviewing in the fall could very easily mean that a company will want copies of both the fall and winter transcripts. This can really add up if you're actively pursuing several companies. When asked about the cost for the transcript, which went up from \$1 to \$2 this year, the registrar's office replies that the cost is to keep students from picking up their transcripts unless they really need them. I don't know about anyone else, but getting a transcript is not that big of a thrill for me that I would get one when I didn't need one. Also consider Purdue University with 35,000 students. A transcript there is free. I have not heard any reports of riots at the registrar's office at Purdue caused by too many students picking up their transcripts. One could argue that the price is to defray the cost involved in the time it takes the secretary to prepare a transcript. This would be a reasonable argument except for the fact that 85% of the time involved in preparing the transcript is spent in typing out a receipt, which would be unnecessary if the transcript was free. Thanks Rose for helping the student.

My final example deals with the Rose bookstore. The bookstore is supposed to be a not-for-profit organization of the institute. If this is the case, why do

books in our bookstore cost \$5 to \$10 more a piece than the same book at Purdue bookstores, which are independently owned and in business to make a profit? Under the current pricing system students taking a full load spend approximately \$350 a quarter for books. This is a far cry from the \$200 to \$300 a year that the people in admissions quoted when we were being recruited. Thanks bookstore for helping to spend the student's money.

These are only a few of the many factors that make up the Rose Screw. As to why we must be subjected to them, I don't know the answer. If anyone out there does have the answer to any or all of the above mentioned examples, I would appreciate hearing from them. Please drop me a line at the Rose Thorn, Box 170. Please include your name as I am sure there are many readers who would also like some answers.

Fraternity Row

The men of Phi Gamma Delta would like to congratulate their newly elected officers for 1989

- | | |
|----------------|-------------------------|
| Doug Collier | President |
| Greg White | Treasurer |
| Rodney Adams | Recording Secretary |
| Phillip Eckert | Corresponding Secretary |
| Brian Miller | Historian |

We would like to wish you the best of luck for the upcoming year.

Clubs! Publicize your events in The Thorn

THORN STAFF

The Rose Thorn is published weekly at Rose-Hulman Institute of Technology, Box 170, 5500 Wabash Ave., Terre Haute, IN 47803. Phone 812 877-1511 ext. 255.

- | | |
|------------------------|---|
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| Sports Editor | Clark Pentico |
| Humor Editor | Ron Dippold |
| Photo Editor | Chris Sloffler |
| Advertising | Steve Ufheil |
| Business Manager | Scott Kirkpatrick |
| Reporters | P.J. Hinton,
Jeff Valput, Keith Miller |
| Columnist | Bobby Woolf, Ron Dippold |
| Sportswriters | Mike Lindsey, Hyrum Lunt |
| Photographers | Tim Mulzer,
Matt McDonough, Joe Forler, Matt Morris, Tim Marling |
| Layout | The Editors |
| Adviser | David Piker |

The Rose Thorn welcomes letters or comments from readers. Articles, ideas, and announcements are also desired. In view of length constraints, we reserve the right to limit the lengths of comments and use excerpts from letters. All submitted material must be signed. All material should be submitted at least one week prior to publication.

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"Rapids of Change" — A preview

Engineering and the global market

by Fred Garry
Retired Vice President
of General Electric

A year or so ago the *New York Times*, in its Sunday edition, carried an article by the writer-historian Robert Penn Warren that reminded us that historians can trace the way human beings have lived and the tools they have used for roughly 800 modern lifetimes.

On this scale, the author pointed out that we have had printing with movable type for about eight lifetimes, James Watt's steam engine for roughly three lifetimes, but that in scarcely over one lifetime, we have seen commercialization of electricity, electronics, automobiles, air, and space travel, atomic energy and, most recently, biotechnology. This technologically driven rate of change has never before been experienced.

Communication allows data and monetary transactions to move with the speed of light and modern transportation allows us to be in almost any one of the world's major cities in about a day's time.

The result has been a rapid, often disturbing, merging of economies and cultures, and accelerated movement toward globalization.

Customers everywhere are increasingly better informed of the quality, affordability of goods.

More and more often they choose on the basis of value rather than on place of manufacturing origin. Trade barriers based on geographical or political sovereignty are challenged by these value-based determinations by citizens of democracies

where such freedom of choice is a cherished right.

As a result, the parking lots of U.S. shopping centers are filled with Hondas, VW's, Hyundais, Toyotas, Fiats, BMW's. The housewife has Krupp and Cuisinart appliances co-mingled with the Sunbeam and Proctor devices in her kitchen.

Certainly the rise of offshore competitors as players in the domestic markets of U.S. manufacturers has been fostered by the dissemination of technology — which — from a basic scientific perspective at least — has, to a great extent, been U.S. in origin.

We hear correctly that U.S. basic research is of very high quality.

But discovery is only one part of the innovation process and since news of discovery moves about the world at a rapid pace — even the most profound findings convey only momentary advantage.

Because the primary role of engineering is the coupling of science to the market place, the engineering community must refocus its priorities to this task.

This is particularly apparent when one reflects on the fact that many advanced design and manufacturing technologies have, in recent years, been of foreign origin. Innovative design practices and such manufacturing advances have provided productivity improvements in certain other countries at least double that of the average U.S. producer.

The compounding of this offshore rate of change has allowed goods made abroad to beat out many U.S. made products perceived to be of lesser value by



Fred Garry

American purchasers.

Again, if we consider U.S. patents granted as a rough measure of engineering accomplishment, it is both enlightening and disturbing to note that in 1987 six of the top ten obtainers of U.S. patents were foreign firms.

In the reality of a global market place, engineers must employ leading edge technology, both product and process whatever its origin, to create products that meet the demands of both domestic and non-U.S. customers.

In short, a competitive America, an America that has a positive balance of trade, demands that we have a world-class competitive manufacturing capability.

Manufacturing creates the demand for services and a recent publication showed that a 1% drop of manufacturing employment had a two to three times multiplier effect on employment in other areas of the economy.

The manufacturing sector is

crucial to technical innovation and although manufacturing accounts for only about one-fifth of U.S. GNP, it performs 95% of all private sector R&D.

An NRC study of 1985 pointed out that 75% or more of engineering graduates are employed in industry, so it is safe to say that the health of U.S. engineering is dependent on manufacturing competitiveness.

The flip side of this coin is, of course, that competitiveness and productivity in manufacturing are inordinately dependent on the quality of engineering. Study after study has shown that 60-80% of costs in manufacturing are determined by design — which I define as integrated product/process engineering.

No one challenges the fact that labor, material and tooling costs are established by our engineering definitions; but, with these factors becoming a lesser percentage of total product cost, forefront companies are turning attention to design actions that lower the cost of the other functions that contribute to the total cost the customer feels.

Design that permits elimination of non-value added actions throughout the business is an increasing challenge to engineering.

Quality and cost have become givens just to have entry at all in either U.S. or offshore markets. The productivity battle — the competitive battle — while encompassing these aspects is expanding. Today the ability to provide new products in rapid response to shifting demand is a principal criterion for success.

So globalization is a fact — and technological improvements are

the critical determinants for international sale. You can only succeed in far-flung markets by doing the job better in all aspects.

Participation in international markets reinforces a builder's position at home. Seizing business from a foreign competitor in the latter's market provides scale that protects market share at home. In today's world, therefore, manufacturers — large and small — must think in global terms to meet the competitive challenge.

The opportunities are great but it takes a mind set change to turn the majority of U.S. firms into global thinkers.

Because markets are totally demanding of excellence, the engineering work in global companies will be done by engineers selected from the best of the world's universities can produce.

Furthermore, a successful technical career in this rapidly changing world demands a commitment to a lifetime of learning. After all, quality of learning is the basic ingredient in the production of high quality goods and services our nation needs to maintain and restore our leadership in the global market place.

As one reflects on these facts, it becomes apparent that the greatest plus we have in this nation is the outstanding quality of our academic centers and their attractiveness to the best and brightest students whatever their national origin together with the opportunity for graduates of great American universities and of other great universities around the world to pursue careers in this country.

Engineers: The creators of change

by John Titsworth
Chairman of Rose-Hulman
Board of Managers

It has been said that if we ignore the past, we are condemned to relive history and repeat its mistakes.

While this may be true, I believe that the bigger damage with ignoring the past is the resulting lack of awareness of changes that have taken place and therefore the inability to anticipate the rate at which changes will take place in our future.

If we take just a brief look at history — say from the American Revolution to the present — we see incredible changes in government, cultures, industry, medicine, education, etc.

And if you look carefully you see that this rate of change has not been linear. The last 80 years has seen transportation go from the horse and buggy to the speed of sound on earth to many times the speed of sound for space travel.

Compare that to the previous two thousand years where there was literally no change in the

mode of transportation. Even in my time since graduating from Rose-Hulman, I've seen my travel go from the overnight sleeper on the New York Central to three hours flight time from New York to London on the *Concorde*.

And my slide rule hasn't been out of the case for 25 years. Imagine the task of designing the next generation of aircraft or the next space vehicle with a slide rule. It couldn't be done, which tells us what computers have done in 25 short years.

If we examine what's behind the changes in our culture, education, transportation, communication and, in fact, anything connected to our way of life, we find it is technology and the advancement in the field of technology by engineers and scientists.

While the computer, as a tool, accounts a great part for our ability to do things more quickly and more accurately, the advancements in technology have been asymptotic with time in every technical discipline from materials to genetics.



John Titsworth

Agricultural technology since the 30s has increased efficiency and yield by several hundred percent. Things are done in the medicinal field that were beyond imagination only 30 or 40 years ago. And we can say the same of almost any discipline.

So change is not just obvious. It is potentially overwhelming to the average person. They can manage it best by simply accept-

ing it and by benefitting from it. Most people do exactly that. There are always the few who fight change or progress, and history shows us some, such as — believe it or not — Napoleon, who was a great tactician but who refused to consider anything new or innovative in warfare.

It's easy to think of changes or events in the abstract. Have you ever heard someone say, "I wonder what they will do next?" or "I wonder when they changed that?" Those thoughts don't question what will be done or what has been done — that usually is no real interest in who "they" are.

Well I think as it relates to the subject of the future and the changes we can anticipate in our life style, the question of who "they" are is most important. "They" are the engineers who will continue the advancements in technology which will change the way of life at a pace even more dramatic than we have grown accustomed to.

They are you! You will create the new methods of communica-

tions, travel, medicine, manufacturing, robotics, computer science, chemistry, construction, etc.

How can you do all of this if technology will change so quickly? You can't go to school all of your life! You can't study all of your life! But you can be supportive of technical innovations and change. Indeed some of you will be directly involved in creating the new technologies and will learn from research and study, but others of you need only to understand and apply the new technologies to create change.

To summarize my thoughts on "change" I think that history proves it will come to an ever quickening pace.

The average person expects change, doesn't need to understand how it occurs or who created it and will accept it and benefit from it.

The engineer has been and will be the creator of change. He or she will make the advancement in technology and will understand and apply them to the great benefit of mankind.

Dealing with the hurt of change

by James T. Norman
Member of Rose-Hulman
Board of Managers

Change hurts. The pain is real. If one seeks to avoid the pain by ignoring the need for change, one becomes obsolete. To the extent that one resists necessary change, the pains is not avoided, it is increased.

Much more comfortable and productive is the ability to recognize the sources of the pain and learning how to manage it.

The pain of change grows out of real loss and real challenge. It is distressing to perceive the end of a commitment, an institution and understanding, or a mutual confidence.

It is unpleasant to recognize the necessity of subscribing to new objectives, learning new methods, changing values, and developing new personal relationships.

Essential to morale is a sense of personal fulfillment. At the

point of change, past accomplishment weighs lightly or hardly seems relevant while there has yet been little opportunity to succeed in the new task. Understanding that these are universal concerns and not personal idiosyncracies is helpful in managing change and in mitigating personal institutional suffering.

Also important is a commitment to a lifetime of learning. At the end of a formal educational

experience, one has grasped the fundamental principles which do not vary. Seldom, however, has one at that time acquired insight and context and these seem to be in a state of constant evolution anyway. So learning, in addition to being a constant demand, must be approached most broadly.

For example, one who has mastered the concept of entropy is a reborn conservationist, finds waste and inefficiency abhorrent

in any activity, and begins to hunt for context. The search can involve the study of history, philosophy, politics and the behavioral sciences.

Insight contributes to effectiveness and is invaluable in easing transition.

Life is not a destination but a journey and we will be measured in how we respond to opportunity, adversity, and change.

National

Job market booming for '89 graduates

by Michael O'Keefe

(CPS) — The job market for this year's college grads is booming.

"There's no question about it," reported Angie Aschoff of Linn-Benton Community College's placement office in Oregon, "the number of jobs advertised with us is up this year."

It's happening nationwide. Two major annual surveys, released in December, of national corporate hiring of new grads both predicted a happy spring.

Northwestern University's Lindquist-Endicott Report predicted an 8 percent jump in corporate demand for graduates with bachelor's degrees. Those graduates will receive starting salaries that are an average 4.6 percent higher than those garnered by the Class of '88.

Starting salaries for students with new master's degrees should be 3.5 percent higher than last year's, NU's report added.

While Michigan State University's Annual Recruiting Survey does not paint as rosy a picture, it does predict "new graduates will face a healthy job market."

MSU asked 427 corporations about their hiring plans. In response, the firms expected to make 3.1 percent more job offers to students this year and said they were especially interested in hiring more women and

minority grads.

Some students consequently feel they're in the driver's seat.

"I'm looking for an attractive company with travel and benefits," said University of Maryland senior Maurice Boissiere of his job search. "Right now I'm looking at company profiles. I'm interviewing them."

"I'm looking for an attractive company with travel and benefits," said one student. "Right now I'm looking at company profiles. I'm interviewing them."

The companies feel it too.

"We will be offering jobs to people who know they are going to be in great demand," conceded Sally Odle, recruiting manager for IBM. "We have to offer jobs that are challenging and interesting."

Deborah DeBow of Eastern Washington University's Placement Office also found "there's more competition (for students), so companies are getting more aggressive. They're buying ads in student publications and coming into the office to strategize more with the (placement) director."

Observers attribute the scramble for students to corporate concern that there won't be enough grads to hire in the future.

A recent U.S. Labor Dept. study predicted one million fewer young people will enter the job market during the next decade than during the 1970's.

"We are doing everything we can to prepare for the shrinking labor market," said Trudy Marotta of the Marriott Corp.

Victor Lindquist of Northwestern added companies also are hiring because the companies themselves expect to prosper.

Sixty-one percent of the firms NU surveyed thought they'd be more profitable in 1989 than they were in 1988.

"Corporate America is confident the economy will remain strong despite concerns by so-called experts about the volatile stock market, the deficit, trade balance, megamergers and the increased competition in the marketplace," Lindquist said.

His report closely followed an early December survey of 14,000 employers by Manpower, Inc., a temporary employment services company.

Twenty-two percent of the companies expected to add to

their workforces during the first three months of 1989, while 11 percent foresaw staff reductions.

"We were a bit surprised at the hiring strength indicated by those figures," Manpower President Mitchell Fromstein said. "After a year in which three million new jobs were added to the U.S. workforce, we expected to see a slowing down of job formation."

The boom is better for some students than others.

"Engineering, accounting and health professions are our most sought-after graduates," said DeBow, while Linn-Benton's Aschoff finds clerical, nursing and automotive students in high demand.

Michigan State researchers said electrical engineering majors will be in the greatest demand, followed by marketing and sales, financial administration, mechanical engineering and computer science majors.

The Northwestern survey found that technical grads will

make the most money. Engineering majors can expect to earn \$30,600, up from \$29,856 in 1988.

Chemistry majors should get the second-highest starting salaries, \$28,488, up 5.1 percent from 1988.

But the biggest salary jump will be in sales and marketing, up 8.8 percent to \$25,560.

The Southwest, according to the Michigan State report, will offer 1989 graduates the most new jobs, followed by the Northeast, the Southeast and the North Central states. The South Central states and the Northwest will offer the fewest new jobs.

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Study shows more students will have to pass drug tests

(CPS) — More students will have to pass one more test, this time a drug test, before starting their careers after graduation, new studies of the job market for this spring's grads indicate.

"The drug user, once on the payroll, becomes a very, very, costly liability" to the employer, explained Victor Lindquist, author of Northwestern University's Lindquist-Endicott Report which showed 47 percent of the companies hiring on the nation's campuses this year test job applicants for drug use.

Another 7 percent of the employers Lindquist surveyed said they expected to start drug testing during 1989.

About 32 percent of the companies asked by Michigan State University's Annual Recruiting Survey, also released in late December, now make prospective employees take drug tests.

Twenty-seven percent of the firms asked last year imposed drug tests.

By contrast, only 14 percent of the companies made students prove they don't abuse alcohol and 3 percent required applicants to take AIDS tests.

Sixty-four percent of the companies contacted by Michigan State, however, said they had no plans to implement drug testing in the near future.

Bill proposes replacing student aid with national service

(CPS) — Students would have to join the military or do volunteer work to get college financial aid if a new bill introduced Jan. 6 becomes law.

As expected, Sen. Sam Nunn (D-Ga.) and Rep. Dave McCurdy (D-Okla.) said they'd introduce legislation that would phase out all federal student aid programs within five years, replacing them with a deal in which students would have to perform some kind of "national service" in return for aid.

McCurdy, in announcing the measure, said it would enforce the notion that "democracy is not free."

If the plan passes, both legislators expected Congress to vote

on it by early 1990, students would have to serve one year in a public service civilian job like working in a nursing home or hospital or two years in a combat branch of the military.

Students who served in the military would get a \$25,000 grant at the end of their hitch.

Students who worked in civilian jobs would get a \$10,000 grant.

McCurdy hoped the plan would "reinvigorate citizenship" as an ideal that was first severely damaged during the Vietnam war. Then "the 1970s and early 1980s featured 'me generations' more interested in their own financial gain and getting BMWs than serving their country."

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Basketball

Engineers back on track, now 9-4

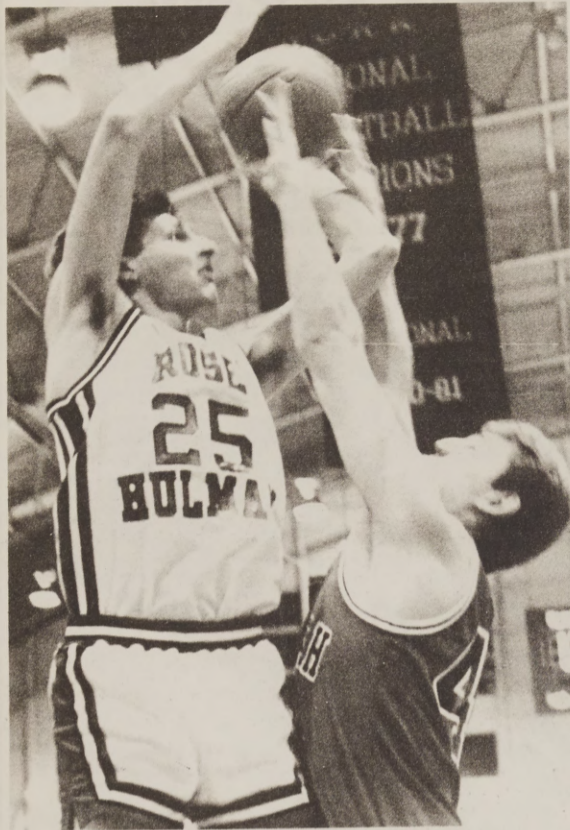


photo by: Matt Morris

Phil Eckert rises above a Wabash defender for two points.

by Mike Lindsey

What a difference a week makes. Following the frustrations of Christmas break, the team made some big strides by downing rival Wabash College and opening up College Athletic Conference play with a road win at Rhodes College. The confrontation with the Little Giants seemed to be just what the team needed. With a home record of 5-0 the return to Shook Fieldhouse, following a five game road stint, was also a big boost.

In an effort to boost the struggling offense, coach Bill Fenlon juggled the line-up to include a third guard. This adjustment seemed to develop better continuity on offense and make the team's deliberate half-court attack more productive. The return to their home court added to the team's defensive intensity. These improvements along with a total team effort sent the Engineers to an easy 81-69 victory over Wabash.

In the game Rose had some trouble getting their shots to fall early, but once they got that going the game was under control. During the first few minutes good defense and determination on the offensive boards kept the game away from the visitors. With ten minutes gone in the first half Rose led by only four points 16-12, but the offense put it together during the next ten minutes. To finish the first half Rose outscored Wabash 25-15 thus opening up a 14 point half-time lead. During that run Dusty DeHaven canned two 3-pointers and

scored all 10 of his first-half points. Britt Petty also nailed two 3-pointers during the rally. The second half was all Rose-Hulman. The lead was increased to 16 points midway through the half and, like the first half, Rose pulled away over the next few

In an effort to best the struggling offense, coach Bill Fenlon juggled the line-up to include a third guard.

minutes. A furious rally enabled Rose to increase the lead to as many as 25 points with just four minutes left in the game. Wabash was able to make the final score look reasonable with a late surge.

The presence of a third guard seemed to create more space inside. Tim Cindric was the main beneficiary by getting 16 points, eight in each half. Petty once again led the team in scoring with 21 points and DeHaven finished with 15 points.

Next came the biggest game of the year to this point. A trip to Memphis would open the CAC campaign against a good Rhodes team. This game turned into a sweet one early. For the first time this year, Rose was able to take its defensive intensity on the road with them. By taking their offense completely from them, Rose left the Lynx trailing 49-28 at the half. Petty tallied 13 points in the half with seven others scoring at least two in the balanced attack.

The second half was a matter of keeping the host team at a safe distance. The lead reached 24 points during the half but, the last ten minutes would seem to last all night. Rhodes, in desperation, went to the 3-pointer for help and got a positive answer. They hit four from long range in the closing minutes, 7 for 12 overall, to narrow the lead to 6 points with under a minute left. Marc Christman then hit four straight free throws to ice the victory at 71-62. Coach Fenlon was very pleased with the total effort and called the win a huge one.

Petty finished the game with team highs of 23 points and 10 rebounds. Cindric continued to produce on the inside by getting 15 points. Christman finished with 11 points and Jeff Harrison got 10 points that included two big field goals down the stretch. Not to be overlooked was a good defensive performance by Harrison on Rhodes star forward McMillan. Jeff held last years CAC most valuable player four points under his average, and forced him to work hard for all of his points.

Tonight brings to town an even bigger game. Three time defending CAC champion Centre College invades Shook Fieldhouse with all five returning starters and a national ranking of 17th. The game will get underway at 7:30 pm. Tuesday the team will travel to Taylor University to play an NAIA national power. That game will become annual next season as Rose enters the new ICAC conference.

Tim Cindric is fine tuning dual careers

Indianapolis native Tim Cindric doesn't mind getting his hands dirty — whether it be on the basketball court or a high-performance motor he hopes to design someday for the Indianapolis 500.

The junior forward for the Rose-Hulman Institute of Technology basketball team scored 20 points and grabbed nine rebounds against Brescia College on December 10 in being named the most valuable player of the 1988 Rose-Hulman Invitational.

As always, it didn't come easily. "It gets pretty rough inside," admits the 6-foot-5, 190-pound former Indianapolis Pike High School standout. "You've got to keep your eyes open or you're likely to get your head knocked off."

The same thing could be said about the race track, where Cindric has spent most of his summers helping such drivers as former Indianapolis 500 winner Johnny Rutherford, 1988 Indy 500

Rookie of the Year Billy Vukovich and Howdy Holmes to victory.

Yes, just like his father before him, the 20-year-old has been bitten by the racing bug. The son of race car engine developer, Carl Cindric, dreams of designing an engine for an Indy 500 champion.

That's why he's enrolled as a mechanical engineering major at Rose-Hulman. He hopes to utilize the technical knowledge learned in the classroom to perfect future automobile engines.

"I can't explain it, but I've always loved racing, loved the track and the drivers. They've always been a big part of my life," Cindric says. "My father wishes he had the education I'm going to get by attending Rose-Hulman. He's had the practical experience but not the scientific knowledge of how the engine works. He wants me to work with my mind and my hands."

"As a kid, my father said he wouldn't buy me a nice car. Rather, he would give me the

best education I could get," he said.

Carl Cindric has been at the forefront of motor development of today's Indy 500 race car. In his shop, located on Gasoline Alley Drive in Speedway, Ind., he's perfected an engine which won the pole position for the famed Memorial Day race. However, he's never had a famed winner.

"That's still his dream," Tim Cindric said.

This year, the Cindric trademark will be on Indy cars driven by former national road course champion Scott Pruett, Derick Daly, Tony Bettenhausen and Raul Boesel. That will mean another busy summer of travel to race tracks throughout North America for the father-and-son duo.

"I want to do something with developing engines, but I'm not sure what my priorities are right now. The Quad-4 engine looks promising, but so do so many other things," said Tim Cindric,

who recently joined fellow Rose-Hulman basketball player Dusty DeHaven on a statistical review of the air in-take system of the cosworth racing engine for a mechanical engineering class project.

"Racing is a strange business. I like traveling to the different race tracks throughout the country. The people are so different and diversified. Every day is different," Cindric said. "Will I have the same feeling after I'm in it five, 10 or 15 years? Will there even be racing? Then, there's the other side: a 9-to-5 job, with weekends off. That will be one of the tough decisions I'll have to make next year."

In the meantime, he'll also continue to perfect his basketball skills. The 6-foot-5 forward leads Rose-Hulman in rebounding (8.6 per game) while ranking second in scoring (13 points per game) and steals (15 in team's first eight games) for first-year coach Bill Fenlon.

"I came to Rose-Hulman ex-



file photo

Tim Cindric.

pecting to play a lot and make a contribution," said Cindric, who brought a 8.5 scoring average into his junior season. He has earned all-tournament honors in the 1987 and 1988 Rose-Hulman Invitational Tournaments.

"Tim is a real competitive kid who always wants to win," said Fenlon. "Tim does a great job rebounding because he utilizes his quickness to a big advantage... He's going to be a real key for us the rest of the season."

Cindric is ready to accept the challenge, saying: "I come out every night and do my part — get rebounds and points. I try to be consistent." As consistent as a finely-tuned engine.

1988-89 ROSE-HULMAN BASKETBALL STATISTICS

(9-4 overall; 1-0 in CAC; 6-0 at home; 3-4 on road; 0-1 in overtime games)

Player	G	FG	FGA	PCT.	FT	FTA	PCT.	REB	AVG.	PF/D	AS	PTS.	AVG.	HI
Petty	13	82	173	.474	43	52	.827	83	6.4	33-1	15	230	17.7	35
Cindric	13	69	149	.463	35	60	.583	95	7.3	27-0	16	173	13.3	24
Adams	13	37	59	.627	32	50	.640	50	3.8	21-0	5	106	8.2	15
Reitmeyer	4	9	15	.600	7	13	.538	7	1.8	1-0	2	25	6.3	16
Eckert	8	15	24	.625	13	16	.813	15	1.9	8-0	26	46	5.8	15
Harrison	13	22	48	.458	22	35	.629	33	2.5	28-0	10	66	5.1	15
Christman	13	17	42	.405	19	24	.792	14	1.1	21-0	13	54	4.2	11
DeHaven	13	15	43	.349	14	18	.778	9	0.7	19-1	13	53	4.1	15
Olsen	13	21	50	.420	5	9	.555	27	2.1	34-1	6	47	3.6	10
Hammond	11	13	21	.619	14	21	.667	33	3.0	19-1	6	40	3.6	10
Steinhart	13	14	38	.368	12	22	.545	35	2.7	32-1	56	42	3.2	9
Webster	4	4	9	.440	0	0	.000	1	0.3	2-0	0	10	2.5	7
Hendricks	10	9	23	.391	2	2	1.000	13	1.3	8-1	4	24	2.4	13
Keown	9	5	13	.385	2	2	1.000	9	1.0	4-0	7	12	1.3	6
Fathauer	6	2	7	.286	2	2	1.000	2	0.3	3-0	0	6	1.0	6
Dewar*	3	0	0	.000	0	0	.000	1	0.3	1-0	0	0	0.0	-
Team								80	6.2					
ROSE	13	306	658	.468	207	306	.676	507	39.0	247-6	165	863	66.4	97
OPP	13	296	676	.438	158	252	.627	483	37.2	274-4	146	804	61.8	90

3-PT SHOOTING: Petty 26-65 (.400), DeHaven 9-27 (.333), Steinhart 2-8 (.250), Webster 2-7 (.290), Hendricks 4-8 (.500), Christman 1-2 (.500), Keown 0-4 (.000), Fathauer 0-2 (.000), Eckert 0-1 (.000), Cindric 0-1 (.000). Totals: Rose 44-125 (.352), Opp. 52-161 (.323).

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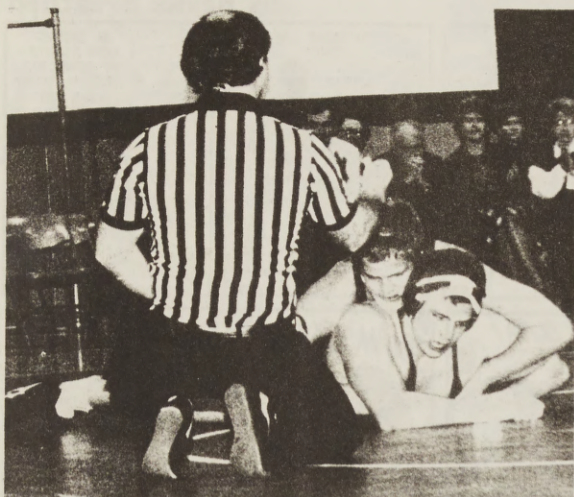


Photo by Matt Morris

Ron Timm (HWT, R-H) controls Wabash wrestler.

Grapplers Gain Experience

by Hyrum D. Lunt

The Rose-Hulman wrestling team has been very busy the past few weeks. Within the last three school weeks, they have wrestled six other teams in dual matches. The first meet was on December 13 between Rose, Urbana college, and the University of Indianapolis. Two of the team's strongest wrestlers, Matt Morin and Brian Engle, were unable to attend due to sickness and injury, respectively. However the team

made a good showing. Jim Winkley wrestled a great match against one of his opponents avenging losses inflicted last year. He had a record of 2-0 for the tournament. Others who wrestled were Matt Murphy, Aaron Wendelin, Dave Koehl, Spiro Megremis, and Ron Timm.

The second meet was Rose's first home match this year on January 10. Although the Engineers lost 33-9 to Wabash College, the competition was quite close. Brian Engle pinned his opponent to start the match off on a right note. Later, Matt Morin would beat his opponent 9-6 to give the Engineers their final points. Three of the four other matches were decided by 3 points or less. Matt Murphy lost a tough match 3-2. Jim Winkley came up just short of win in his match. The final score there: Winkley 6, Wabash 9. Finally, Dave Koehl lost 4-2 against his opponent. The last match, Ron Timm, HWT, was close, but Timm was unable to score a victory.

Rose's wrestlers competed this past weekend at the University of Indianapolis in a dual-meet tournament. This is different from a normal tournament in that teams are matched against each other rather than weights. Rose performed excellently, bringing home a record of 2-1. The two teams defeated were Cienna Heights, and DePauw. Rose once again lost to Wabash, but the score had improved to 27-12. A big help to this showing was the fact that three wrestlers came home undefeated. Morin, Midcalf, and Megremis all had 3-0 records. Brian Engle also made a strong showing going 2-1 for the tournament. The two other wrestlers for Rose were Koehl and Timm.

This weekend Rose will compete in the Elmhurst tournament.

BLOOM COUNTY

by Berke Breathed

EXCUSE ME...UH, MISTER "TWELVE"... I WONDER IF YOU'VE SEEN... ER...

SAY, WHAT ARE YOU DOING?

ME?

WHY, I'M LAYING IN STOCKS TO KEEP ME FROM CLAWING MY EYEBALL OUT OF MY LIPS THAT THEY CLIPPED OPEN AFTER SQUIRTING IN THE OPEN CLEANER.

NO, WHY? BARBARA BUSH DYE HER HAIR?

THEN I GUESS YOU HAVEN'T SEEN MUCH OF ANYTHING LATELY, HUH?

I'D LIKE TO SEE THAT!

MOM! I HEAR FOOTSTEPS...

I HEAR FOOTSTEPS...

IT'S THE MARY KAY COMMANDOS!

FOOTSTEPS?

BACK IN THE CAGES, LIL' WOODGEMS!

RUN!! EVEN THEIR UZIS ARE PINK!

MIL0! I FOUND OUT WHERE MY MOTHER HAS BEEN TAKEN - THE LABS OF "MARY KAY COSMETICS"!

THEIR PRODUCTS ARE MADE FROM ANIMALS... TESTED ON ANIMALS... AND SOLD BY SALESLADIES WHO WIN ANIMAL-FUR COATS! IT'S A MARY KAY MASSA-CREE!!

ANYWAY...I'M OFF HAVE A MERRY CHRISTMAS, MIL0.

MOM! I GOT THE "GIFT"!

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HOLY MACKEREL... SORTA BETTY FORD CLINIC "IN REVERSE."

SAY, HAVE ANY OF YOU SEEN A MATRONLY PENGUIN CHECK IN HERE?

OH, EXCUSE ME... YOU'RE WAITING FOR LUNCH?...WHAT'S ON THE MENU?

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...OR AM I ROMANTICIZING THINGS A BIT?

GOOD HEAVENS... WHAT HAPPENED TO YOU?

PERMAL TOXICITY TEST: THEY SHARPED "FRUITIAN PINK" NAIL POLISH ON MY SHAVED SCRAPPED FLESH.

HOW CAN I BE OF SERVICE?

I'M LOOKING FOR A PENGUIN...

DOWN THE HALL TESTING ROOM "X" WHAT'S GOING ON?

WHY, A RESCUE!

THERE'S NOT MUCH SKIN LEFT ON IT, BUT WOULD YOU MIND TERRIBLY SAVING MY BUTT, TOO?!

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MOM!

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AIR FORCE

“Humor”

Valley Schmuckpoint:

We would like to preempt this week's Valley Schmuckpoint to express our own concern over something alarming we have noticed lately. For weeks, we have been planning our "Gradebook" issue, for when the Triamble Gradebook came out. Those of you who remember last year's edition will also remember that the Torn was practically handed page n-1 material on a silver platter, as well as incredible hassles when we actually tried to use the damn thing! It's hard to call someone at 877-3(blot)... Well, the Gradebook came out this week, and our plans have been shot down in

smoke. All we'd like to say to Triamble is, "Thanks a %\$\$ (a %\$! lot!!! You know, writers have to make a living, too!!" It was thoughtless, evil, and downright inhumane of them to put out a decent Gradebook, and we hope they get what they deserve! We'll just have to settle for yelling about how late it is or something petty like that.

The Schmuckpoint endorsed here is not necessarily the view of the Torn, but the fact that we're running it should give you a damn good idea about how we feel. Opposing viewpoints can jump in Scum Lake.

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Details: The physics department, in its never ending quest for knowledge, has reached the point where it becomes advantageous to try certain experimental techniques on live animals. So we decided to give students the opportunity to earn more money. Plus, it's cheaper than buying new animals to replace the dead ones. There are many areas of opportunity open to volunteers. Just think how it will look on your resume!

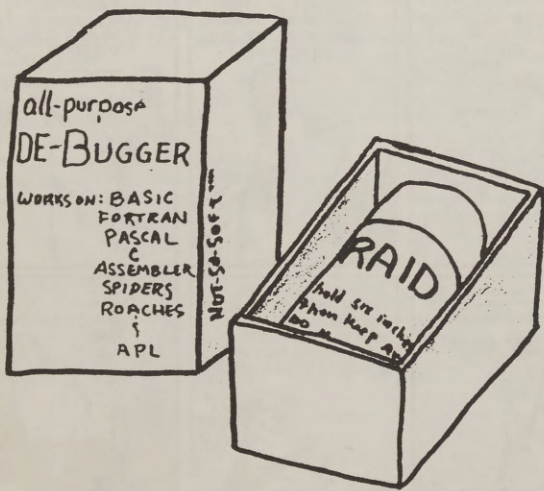
A Section: The most important new experiments being performed involve Rosem's infamous "Neutron Howitzer." We provide lunch and clothing (ye olde lead codpiece). Greater preference for selection will be given to those who plan to join a monastery, a nunnery, or who will be otherwise "nonfunctional!"

B Section: These students will meet in the laser lab, where we will be studying the effects of the implantation of fiber optic cables into the human eye. Anesthetics are available on request, but will come out of your salary.

C Section: The lucky subjects in this group will be experiencing the effects of Rosem's new centrifuge, where we are researching a cure for tallness. If you become queasy at 30G's, this may not be for you. In fact, certain unlucky subjects have found themselves with their heads literally up their [oops, looks like we're out of space -Ed.]

URNOCSLAND

by Andy Conro



Top Ten Reasons To Have Yet Another %\$ >! 8-Page Issue

1. Makes us think we have something to say.
2. Indiana Paper Growers Association sent Joe "Open Fracture" Tortellini over to talk to us.
3. Looks good on Uhaul's resume.
4. Three Bloom County bomb threats arrived this week.
5. Hulburb's canary has been really "busy" lately.
6. The 6-page Zenith ad fell through, but...
7. This way, someone actually reads page 3.
8. It takes extra room to go over two-syllable words.
9. Trying to reach the standards of excellence set by the Tribune-Star and the Technic.
10. We get paid by the word.

BLOOM COUNTY

by Berke Breathed

